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WARE FRESSOLA VAN DER SLUYS &
ADOLPHSON, LLP
BRADFORD GREEN BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

EXAMINER

MEHRA, INDER P

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/749,874	Applicant(s) PURNADI ET AL.	
	Examiner Inder P. Mehra	Art Unit 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-25 is/are allowed.
- 6) ☒ Claim(s) 1-3, 18-20, and 26 is/are rejected.
- 7) ☒ Claim(s) 4-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to amendment dated 1/13/06. Claims 1-26 are pending.
2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Specification

3. The disclosure is objected to under 37 CFR 1.71, as being so incomprehensible as to preclude a reasonable search of the prior art by the examiner. For example, the following items are not understood: **Claim 19** recites "a computer program product", which is incomprehensible and confusing. "product" is not specified clearly in the specification, as to what kind of tangible product is being claimed, such as computer (Lap Top, Desk Top), memory etc. It is nor clear whether claim 19 is dependent from claim 1 or an independent claim.

Applicant is required to submit an amendment which clarifies the disclosure so that the examiner may make a proper comparison of the invention with the prior art.

Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

Claim Objections

4. Claim19-20 and 26 are objected to because of the following informalities:

For claims 19-20, it is nor clear whether claims 19, and 20 are dependent from claim 1 or an independent claims.

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For claim 26, it is not clear whether claim 26 is dependent from claim 20 or an independent claim.

Appropriate correction/clarification is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 20 recites, "a radio access network comprising equipment means for performing the method of claim 1. Claim 20 performs one means, whereas claim 1 performs multiple steps. Means per se should include one step at a time. Multiplicity of means (steps) under one means is being unspecific.

Under 37 CFR 1.75 (b), The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery. More than one claim may be presented provided they differ substantially from each other and are unduly multiplied.

Appropriate clarification/correction is required.

7. The following is a quotation of the sixth paragraph of 35 U.S.C. 112:

an element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Claim 20 is rejected under 35 U.S.C. 112, sixth paragraph, as follows:

Claim 20 recites a means but it not known as to the function of the means.

Appropriate clarification/correction is required

Information Disclosure Statement

8. The information disclosure statement filed 4/2/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Document "3 GPP TS 25.322 V5.6.0 (2003-09), Technical Specification, 3rd Generation Partnership Project ;----" is not available to examine. Appropriate document be provided. Appropriate action be taken to provide copy of the document.

Claim Rejections - 35 USC f 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action'

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-3, 18-20 & 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ludwig et al.** (US 6,816,471) in view of **Yin et al.** (US 6,490,251).

Regarding claim 1, Fig 4 of Ludwig et al. teaches "a radio access network (401) coupled to a core network (400) monitoring wireless transmission of packet according to a layer protocol the radio access network including equipment implementing a radio layer (L1)", and Fig. 6 of Ludwig et al. teaches "the upper layer

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(L3) distinguished at least in that the radio layer (L2) receives data as packets from the upper layer (L3) and prepares the data for transmission over air by forming radio frames corresponding to the packets31" also disclosed in column 5, line 55-column 6 line 5, the method characterized by:

A step of local acknowledgement in which the radio layer sends a local acknowledgement to the upper layer on occurrence of a predetermined event is disclosed in column 8, lines 8-32. The reference discloses link reset corresponds to predetermined event and providing information to L3 layer corresponds to claimed step of sending local acknowledgement.

Ludwig et al. fails to disclose a step of slow release in which a upper layer removes from the buffer maintained by the upper layer the oldest packet in the buffer when the buffer is full and a new packet arrives, and does so independently of whether the oldest packet has been acknowledged by the radio layer of the terminal.

Yin et al. discloses an upper layer removing from the buffer maintained by the upper layer the oldest packet in the buffer when the buffer is full and in IP the oldest packet gets dropped first independently of whether the oldest packet has been acknowledged or not (see column 8, lines 14-20 of Yin et al.)

At the time invention was made it would have been obvious to combine Yin et al method of removing the oldest packet in the buffer to the method of Ludwig et al. One in ordinary skill in art would have been motivated to do this to provide a congestion control mechanism in network (see column 8, lines 15-20 of Yin et al).

Regarding claims 2 , Ludwig et al. further teaches in the step of local acknowledgement, the radio layer includes with the local acknowledgement a sequence number disclosed in column 7, line 54- column 8, line 7. sequence number of column 8, line 7 corresponds to the claimed sequence number.

Regarding claim 3, Ludwig et al. further teaches process of removing the packet from the buffer having a sequence number equal to the sequence number included With the local acknowledgement disclosed in column 7, lines 55-65 .The reference discloses data packets corresponding to a sequence number acknowledged are removed from the buffer.

Regarding claim 18, Ludwig et al. further teaches the method in which local acknowledgement signals the upper layer to release the buffer to the target is disclosed in column 9, lines 5-19 .The reference discloses transferring of unacknowledged 1-3 data packets.

Regarding claim 19, Ludwig et al. further teaches in Fig (2) a computer readable storage structure (buffer-3) embodying computer program code thereon for execution by one or more computer processors in radio access network, and in Fig (1) computer program code instructions for performing the steps of the method.

Regarding claim 20, Fig 3 of Ludwig et al. further teaches a radio access network comprising equipment adapted to perform the said method.

Regarding claim 26, Fig 4 of Ludwig et al. further teaches a wireless communication system, comprising a core network (400), a terminal (500), and a radio access network (401) and communicatively coupling the terminal (500) to the core

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network (400).

Allowable Subject Matter

11. Claims 4-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
12. Claims 21-25 are allowed.

Response to Arguments

13. Applicant's arguments with respect to claims 1-26 have been considered but are not persuasive.

Applicant argues, "there is no teaching of the L2 layer (asserted by the Office action to correspond to the recited radio layer) sending a local acknowledgement to the upper layer on the occurrence of a predetermined event.

In response, it is stated that each radio access network has its own L2_ARQ protocol, refer to **Ludwig's** col. 6 lines 34-36, col. 5 lines 25-30 and 60-62.

In response, it is stated that Ludwig explicitly discloses "the radio layer sends a local acknowledgement to the upper layer on occurrence of a predetermined event is disclosed in column 8, lines 8-32. The reference discloses link reset corresponds to predetermined event and providing information to L3 layer corresponds to claimed step of sending local acknowledgement." At the occurrence of "reset conditions without a handover" is predetermined condition--- resulting into providing information to L3 layer corresponding to "sending local acknowledgement", In this way, similar to the above example of a reset without

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a handover, the complete transmission of all L3 data units is secured. Resumption of transmission starting with unacknowledged L3 data units is tantamount to acknowledgement of predetermined event having occurred.

Applicant argues, "Yin discloses discarding a packet from a buffer not because the buffer of an upper layer of the edge device or the TCP/IP network full, but because of some indication of congestion of the ATM network.

In response, it is stated that Yin discloses, "if the value of ACR is constant or slowly changing, eventually the TCP sliding window and hence the input rate of TCP packet transmissions to the queue may become large enough to cause the queue length (QL) value to reach MOS. a TCP packet is dropped by packet discard and --- TCP packet is dropped from the front of the queue, i.e., the oldest TCP packet in the queue is discarded, refer to col. 7 lines 60-65 and col. 8 lines 10-20. In other words, buffer is full resulting into dropping of packet,

Yin discloses "TCP packet is discarded if the queue is full, refer to abstract.

Further still, the Office action argues that is proper to combine the teachings of Yin with the teachings of Ludwig "to provide a congestion control mechanism ...and applicant respectfully submits that the combination is one made in hindsight, i.e. in view of the elements included in the independent claims, and not because of any suggestion or motivation, either in the references themselves or in the knowledge generally available one ordinary skill of the art, to modify the reference or to combine reference teachings, "as required by MPEP at 706.02(j).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant argues, "Most importantly, though, the site in Yin (col. 14-20) discloses deleting packets from a buffer ***not maintained by the upper layer of equipment implementing a radio access (or even some other network), but instead by an edge device***, which are e.g. switches (col. 2, line 45). See col. 5, line 31-34, which explains that Fig. illustrates components 320--called an ATM segmentation/ transmitter--of the edge device 115 shown in Fig. 1, which interfaces a TCP/IP network with an ATM network. Fig. 4, at 64-65 and 11. 3-4, is said to describe the operation of the ATM segmentation/ transmitter 320, which includes a packet discard decision block 430. Fig. 5, at col. 6, 31-34 is said to describe the packet discard decision block

In response, it is stated that Applicant correctly had agreed (refer to Applicant's arguments page 9 paragraph 1), " Yin does teach a mechanism for congestion control, but one of use in case of heterogeneous networks (i.e. e.g. a TCP/IP network communication with an ATM network. In other words, there are two different protocols as well as two different layers- Transport layer (upper layer) and DLC (lower layer), refer to col. 2 lines 45-50.

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Further, Yin discloses, "the present invention is related to the communication of flow control information from one layer of a data internetwork to another layer of the data internetwork"., refer to col. 1 lines 30-35

In light of above explanation, arguments by applicant are not persuasive.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P. Mehra whose telephone number is 571-272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Inder Pal Mehra 2/15/06
Inder P Mehra
Examiner
Art Unit 2666

Tom Mm

CANG TON
PRIMARY EXAMINER